WD XE

SAS Hard Drives

WD XE SAS hard drives provide up to 900 GB of high performance storage suitable for both enterprise server and enterprise storage applications. The ultra-fast 6 Gb/s SAS interface enables optimum data reliability, availability, and scalability. In an environment where space and power are limited, the WD XE drives are an effective solution for high performance computing solutions such as power-constrained data centers, database transaction processing, and rack, tower, and blade servers.

INTERFACE
SAS 6 Gb/s

WIDTH/HEIGHT
2.5-inch/0.6-inch

ROTATIONAL SPEED
10,000 RPM

CAPACITIES
300, 450, 600 and 900 GB

MODEL NUMBERS
WD9001BKHG WD4501BKHG
WD6001BKHG WD3001BKHG

Note: Not all products may be available in all regions of the world.

Product Benefits

Ultra-fast SAS storage
WD XE delivers 6 Gb/s transfer rates, sustained sequential data rates up to 204 MB/s, and a fast average read seek time of 3.6 ms.

Industry's highest reliability rating
2 million hours MTBF.

Low power consumption
This 2.5-inch SAS drive requires less than 8 watts to operate.

Ultra-cool operation
The small form-factor, 70 percent smaller than 3.5-inch drives, allows more system airflow resulting in lower cooling costs.

Dual port, full duplex connectivity
Offers higher reliability, performance and data availability by eliminating single points of failure, designed for high-availability mission-critical enterprise systems.

Rotary Acceleration Feed Forward (RAFF™)
Optimizes operation and performance when the drives are used in vibration-prone, multi-drive chassis.

NoTouch™ ramp load technology
The recording head never touches the disk media ensuring significantly less wear to the recording head and media as well as better drive protection in transit.

Environmentally conscious
In addition to being ROHS compliant, these drives are built with halogen reduced components.

5-year limited warranty

Applications

- **Performance servers** – Database, OLTP, high-performance computing
- **Performance storage** – Data centers and NAS arrays

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Specifications[1]	900 GB	600 GB	450 GB	300 GB
Model number	WD9001BKHG	WD6001BKHG	WD4501BKHG	WD3001BKHG
Interface	SAS 6 Gb/s	SAS 6 Gb/s	SAS 6 Gb/s	SAS 6 Gb/s
Formatted capacity	900 GB	600 GB	450 GB	300 GB
User sectors per drive	1,758,174,768	1,172,123,568	879,097,968	586,072,368
SCSI command queuing	Yes	Yes	Yes	Yes
Form factor	2.5-inch	2.5-inch	2.5-inch	2.5-inch
RoHS compliant[2]	Yes	Yes	Yes	Yes
Performance				
Data transfer rate (max) Buffer to host Host to/from drive (sustained)	 6 Gb/s 204 MB/s	 6 Gb/s 204 MB/s	 6 Gb/s 204 MB/s	 6 Gb/s 204 MB/s
Cache (MB)	32	32	32	32
Rotational speed (RPM)	10,000	10,000	10,000	10,000
Average drive ready time (sec)	13	13	13	13
Reliability/Data Integrity				
Load/unload cycles[3]	600,000	600,000	600,000	50,000
Non-recoverable read errors per bits read	<10 in 10^{17}	<10 in 10^{17}	<10 in 10^{17}	<10 in 10^{17}
MTBF (hours)[4]	2,000,000	2,000,000	2,000,000	2,000,000
Limited warranty (years)[5]	5	5	5	5
Power Management				
12VDC (A, max)	1.450	1.450	1.450	1.450
Average power requirements (W) Sequential read Sequential write Random read/write Idle	 7.0 5.3 6.4 5.2	 7.0 5.3 6.4 5.2	 7.0 5.3 6.4 5.2	 7.0 5.3 6.4 5.2
Environmental Specifications[6]				
Temperature (°C) Operating Non-operating	 5 to 55 -40 to 70	 5 to 55 -40 to 70	 5 to 55 -40 to 70	 5 to 55 -40 to 70
Shock (Gs) Operating (2 ms, read/write) Operating (2 ms, read) Non-operating (2 ms)	 30 65 300	 30 65 300	 30 65 300	 30 65 300
Average acoustics (dBA)[7] Idle mode Performance seek mode	 30 37	 30 37	 30 37	 30 37
Physical Dimensions				
Height (in./mm, max)	0.59/15	0.59/15	0.59/15	0.59/15
Length (in./mm, max)	3.94/100	3.94/100	3.94/100	3.94/100
Width (in./mm, ± .01 in.)	2.75/69.85	2.75/69.85	2.75/69.85	2.75/69.85
Weight (lb./kg, ± 10%)	0.51/0.23	0.51/0.23	0.51/0.23	0.51/0.23

[1] As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabit per second (Gb/s) = one billion bits per second. Effective maximum SAS 6 Gb/s transfer rate calculated according to the SAS specification published by the INCITS T10 organization as of the date of this specification sheet. Visit www.t10.org for details.

[2] WD hard drive products manufactured and sold worldwide after June 1, 2006, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

[3] Controlled unload at ambient condition

[4] 100% workload at 50°C on base casting.

[5] The term of the limited warranty may vary by region. Visit http://support.wdc.com/warranty for details.

[6] No non-recoverable errors during operating tests or after non-operating tests.

[7] Sound power level.

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